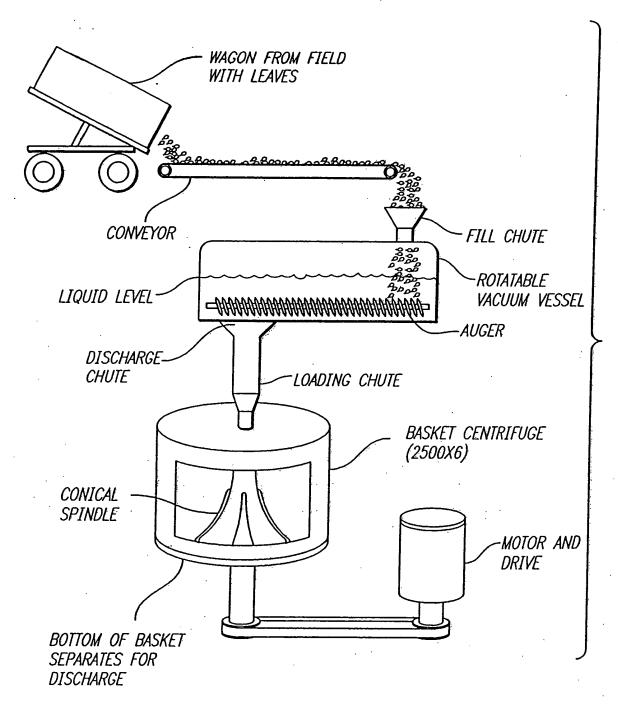


BATCH VESSEL INFILIRATION

FIG. 2



CONTINUOUS VACUUM INFILITRATION

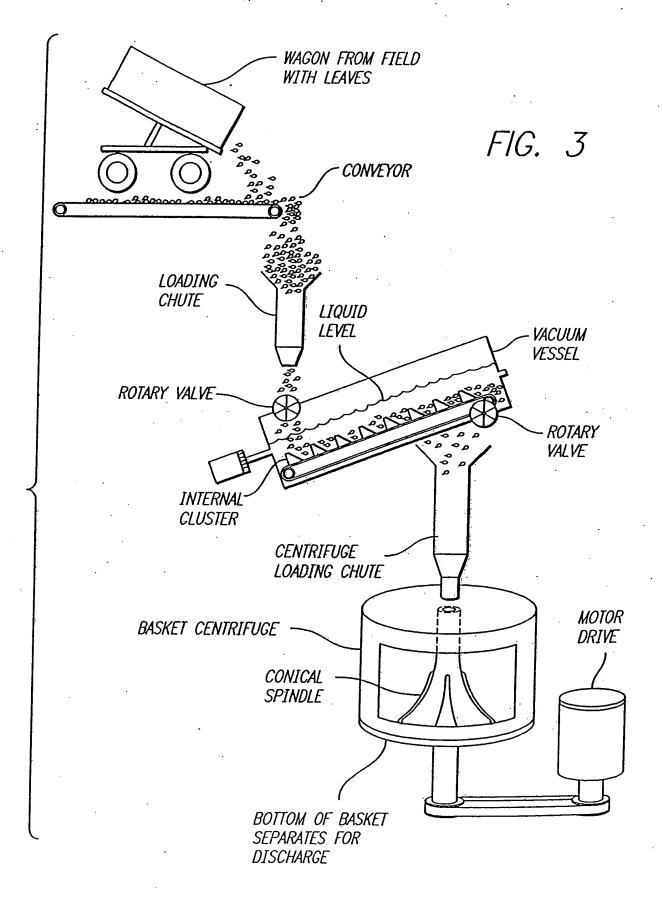
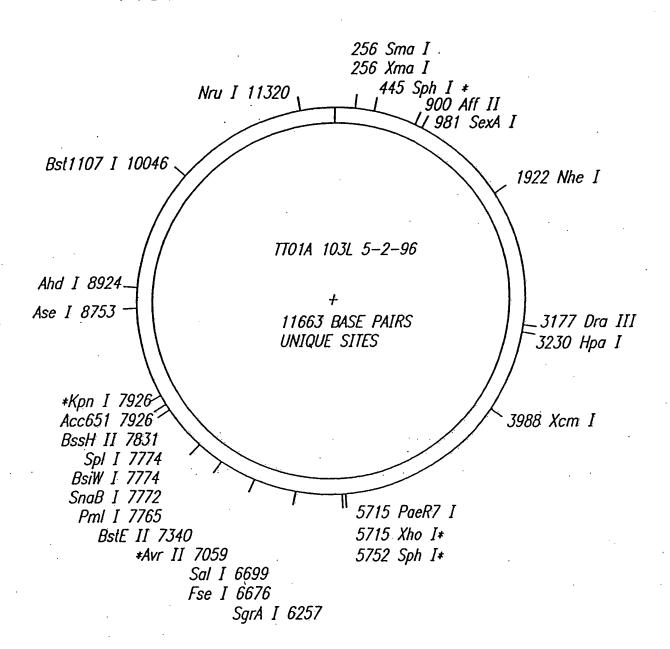


FIG. 4



A TTOIA 103L Viral cDNA

2000 1360 1520 1600 1680 1760 1920 2080 2160 2240 1040 1120 1200 1280 1440 1840 880 960 8 480 560 640 720 320 CAATGACGGC ACCGTCCATG CTAAGAACGA ATTGTGTACA CATCTAGGAA AGAGTTATCG GCGAATGTTG GTCGAATCTC CCAGCATGTG AGTGCTTAAC ATCATGCGGC TTAATTATTG TGTGCAACAG TTTTACCTGC TACAAGGCCT TAGGCGGGAA CGTCAATTTG GTACCATTAT CGAGGGTAAT TTATCAGAGT gtatttttac aacaattacc aacaacaaca aacaacaaac aacattacaa ttactattta caattacaAT GGCATACACA AGCGAGGAGC TCGCTTGCA CTTCCAAAG ATCAGCCGAT GCGCCACTCT ATGAAGGAGT TGTGGCCCAT CTTGGTCAAT GATCTAGCAA AGCGTCGTCT AAGTTGAAGA TICGTAAGCA GATGAGCTCG TTGGATGTTG **AAACGGTGTG** AACAGGAAAC AGTGACTGAG ATGCACTTTC GAAGTTGACC **ACCTACTGAG** CTGCTGCGGT ACTCTTGCAA TATGGTCATC TCGTGTTTAC GTCCATGACG TCGTCCTATT AGGCCCAAGG IGAACTTTIC AAAAGTAATA ACAATGCGAC GAGAGTACTC TGTACAAAGG TCGATTCGAT AACACGCAAA ATGCCGTGCA ACTTATGACA CGTTCGAGAC AGAGGTTTAC CAGTCCCCAA TGAGTTCGGG AAGATTCATA GTTTGGAGTC TCATCCGGAG GCATCACTAT ACCTCAAGAG CTGCTTCTTG CTCGGTTCGA GAGGCTCTTG GTGATGTACA CCAATCTTTG CATTTGAACG TTACAAAAG AAATGAGGGA CTTTGTCGAA CGGATCATTG TACTTTCCAG TTTTGCATCA CCTCTAATAG TCCAAGGATT ACGACAGATT CCAACCTGGA GGGGGAAAA TACCAGCCGA ACTITICITI TACAATCCTT GATTCGTTAA TAGCCTGGTA CCCGTCAAAA TTGCTGGAGA TACTTCCCGG AGAACGGAA CCCAGATGTG CTGACTCTCA TTTGGTAGTT TGGTTTCCCA AGTCTTAGTG ATGTTTTGTC CAAGTTTAGT CCGTGAAAGA GTGACCTTCC TAGAATAGAT ACGCATGGCA AAATCTTTGT TCTGTCACAA ATATATGACA TGACCTTTTC AAATTCCCTA CTCTGAGAAC GAAACAACTC TACATTTTAT TGCTGCATGC GCTAGAGAGA ACTTTATCGA GACCTTGAAA TTAGCTGGTC GGCAACGGCA ACATACGCAA GGATGTGGAC AGAAGATGGA TGAGAGCGGT CAGAAGGTGC GAAGACGCTG GCTACACAGC GCAATGGAAG AGTCAATTAC CGCGCAAGGA TACTGATTAG GCATTTCCCT TGATCTATAT GATGTTTTT GTAAGTTTTC CTGATGATGC TCGTGACCGC ATATGTACAC ACCTTTCTAG CTTTCCACTT GTGCAAACT TTTGCTGGAC ACTGTCCGAG GCGTATCCAG AATTCCAAAT GGAGACAAGT 1 40 CAAATGAAAA TCATGAGCAA TGGCCAGAGG AGAGTTACAA TCTTTAGAGC AGTTTCATAT GACATTAGGA GTCAAGATCC TCAAAGATAC AGCTGCTATT ATTCATCATC GGTCCGAATG AAGGATGACT GTTTGGGAAC TCAGGGTGCC ATTCGATGTT GAGAAGGCTT GAAAGCTCTT ACTGGAATAT GTTTTATACT AGTAAGAGGA AGGGACGAGC ATTGAACTAT GCTATGCCG TTCGCGCGAT TTAAGTATGT AGTTTAACGC AGAAATTCCT ATGCCATTGC ACCTGGTTTT TAAAGTTCAG TGCCGTTCTA AGTCTGACAA ATAGTCGCGG ACAGGATCAA GCATTAGAGA **LTTCGCTGGC** GCCTGCGCTT CTCCTTGAGG GTGACAGCGA TCTAATATTC CAGAGTTAAT ATAGTGAGCA TTGGAGACT CATACCAGGC TGTCCATACG CAGACAGCTA CCACATCAGC GCGGTTGAAG TGCTACCCGG CATCTGTTCA ACAGATACGC GGCAGAGTGT ACGCGTGTTT GATCTTTAGA GAAAGACAGT CGGGTCCGAT AGCGAAGGTT AAGGGTTCGA GGAGATAGAG CGCTAGCTTT GTGTTAAGGG CACATTCGAA ATACTAAGCT TGGGATGAGA GGCAGGCGAC CTGTGGACAT AAAAGTGTAG CGAGAGAATC TCGACATTTC CATTAACGGT GAAGCATTTG GACGAAATCA TCATAGTTAT **TTTAGTCAC** TTACGACACA TTTTGCATCG ACGAAGGCCA GAGGAAAAA GGTGGATTGC GCAGCAATCA AGACGCTTAT 2001 2081 1441 1521 1601 1681 1841 1921 281 1761 041 201 881 961 1121 1361 161 481 641 721 801 241 321 401 561 8

FIG. 5-1

4320 4400 4480 4560 4640 3920 4000 4080 4160 4240 3680 3760 3840 3200 3280 3360 3440 3520 3600 3120 2880 2960 3040 2800 2560 2640 2720 2480 TTTCACAAG AAAGACACCA TCAAAGAAAG CACATCAAGG ATTGGGAACA TTGGGAGAG TGGAGAAAT CAAAATACGA CAACACTCCG AATACATCAC AATAGGCCAG ATATTTGGCC AACGGCGGCA GCTTAAAGAA AAAAGAAAC AGTTGTCTGG ATTAGAGATC TGACTCGGTG AGCAAAATT GGCAAGATCC AGTGCAAGGC ATAAGTGTCT GTCAAAGATT CACATGTTTT CAGCAGATTC GACACGCAGA TTAGTACCTG CGTTAAAACC CTTCTTCGGT TGTTTATTCC GGTTGATGTT TTGTTCTTGT GTGGCGCTTT ATGCTTCCGA TCCGGATGTG GAAGATATGT AACGCACCCG **AACAGGTAAC** GCACAACCCA GATCAATGCA CTGGATATAT GCATCTGGTA CTATGGTACG TGAAGACTTC TTTTACTATG AGTTAGTATC TTCATTGAAT CTGTGCATGA GGAGACAGCC AATTACAGAT CGAAGGACAA CGGAGACACA ACGAGGTGGA GTCATGAGCA ACCCTTGCAT GTTGTTGAAA CCCACGCGAG GAAGTATCAT CTGAGTCTGT AGCGCAAAGG AGATCTAATT ATTGATGAAG TGTTTAAAAA ACAGTATGGA TACTTTTGCG TCTCGAAACT TGGTGCTAAA ITTCCAAAGG GTTGTGAGTT TTTGGCCTCG GAAAAGCAGG CATGATTAAA ATTCAAAAA AGATTTTTGT TGTCTTGGAG ATAAAAACTT ACACAATAGC TGATATGCAG TGACTGACAT CCACTAATAC AAGGAACTTT ATAGTTATT ATCTGGCGAA GATTGGGTTT CGATCTCAAA GATGTTCACA CATCATTGCA TGGAAGTTG TGGATCCTTT ATTGTGGCCA CATATGTTTA ATTTTGATGA GAGGTTATTC GAGAAGAGTA GCTGTCAGCT CGATGTCAGT TGAGGGCTTT TTGCTGCATG ATTGTGTACC TGATTCGAGC TGCCGATGGA TACCGCAGGT AGTACAGACA **AAGTTTTTG** CGATGATTAA TAGATEGTTA ACAGGAGATA ACTGTTGTTA CGATGCAGGA GTGATATTTC TCAAATCAAA TTTGCCAAA AGGGTATTCA ACCATGAGGT TCCAGGGTTA GTGATCAATC CACCAGTCTC TGCGAAATTG ACGGAGAACC CTCAGGGATT GTCAGTTCAA TCTGCTGTAC CTAAAGTTGA TCAAGGATTA GACAGTCATG AGAATACGAG ACTGTGATCA TTTGCAGACG AGTTGTAGAT GCAGTTGATC TGGACAGTGT CGCCTAAGGA AATTTAGTGG AGTCTCTCAA TGCTTTCAAG CCAAAGACTG TGATGCTGTT CATTATCTGA CGGAGCCGCC TTAACCCCTA ACCCCCCCA CAAGTACTAC TGTATAGGT CCAAGAGICA IGCAIGGGT GCGATGATTG AGAAATTCTT GTGCGAATTC AGACACAGCT GATGTCATTG CTGCTTCGAA GAAGCAAAAC TTACGATCCC GTGACGATAG AAGACCACCC CATTGGAAAC ACTGTGCAGT ACTATTGGAA AGATTTGCCA AGTACCCGGC AGGCAATTAC CGGAGATCTC rctgttgctg TTCAGTAGAG TGTTAGATA TGTTGCAGCG CTGCATCTTT GGAAAACCAA TTTGGGAAA CGATGTCACA AGATGGTCGG AAAGAAGCTC ACTAGTTAGG CCTGTTCGCT TGAATAATTT **ATCAGAAGAC** TTCTTGTGGC GGATTCCCGT GTGGTGACAT TCTGCGCAGA GCATTGTGTA AATCAAAGGA GCCTTTTGCG **ATCCAAACGG** AGGCCATAGA GTGGAATTTT TCACGACGTT TGTTTCTTTG TTGATTTTGT TGAGCTTACT GCCAGACTGG ATTGAAAATA AATGAATTCC CCAATCGGAT AGCACCATGA TATGICTAAG CGGATTTCTT GTTTCGCAGG TAGCTCGTAC CTGATGTTTC TCAAGGCACA GTTGTCCAGC CCAATCTTTT STGGTTAATC AAACCAACGG AACTCAGAAC CGCGGAAATG TAGAGTTTCA CCGGGCTGTG TCATGATGAA TGAGCAGGGT TGTGTTAATT CGAATCTTAT GACAGAGGAT AGCGGGGACG GGACACTTCA CGTTGTTTAG CAAATCTCAG TTTGGAAACA GCGCAGATTG CCCAGGCAAC GAAATGCCAC CATCATTGAT TTCAAAGGTT GCATATTGGA CAAATAAAA CTCGCAGATT GGTCGCATTG CATACATCAA ACTACTCTCC GACTITIAC GAGACATACT **TAGAGAACT** TGGAATATGA TAAAAAGTCT GACATGGCGA GGAAGCAAGC GTTGATTCTT GCATACTGGT GGACGGAGTT 4641 4561 4481 4401 4321 4001 4161 4241 3841 4081 3441 3681 3761 3921 3361 3521 3601 2961 3041 3201 3281 3121 2801 2881 2641 2721 2401 2481 2561

FIG. 5-

6480 6640 6720 6800 6880 0969 7120 5520 5680 5760 5920 9009 6080 6160 6240 6320 6400 6560 4960 5040 5120 5200 5280 5360 5440 5600 5840 GCATCTACTG GCGAACGGCG GCCTCCGCGG ACCGGCAGGG **AAGGTGATCA** TGGCTACGCA ccgaaaaata ataataattt **FTGGACGACG** GTCGATCAGG CAACTTGACA TGATGGGCAA TACGGCGATG GCTACTCCGC CGGCGCCAAC CGGCAACCCA CGGGTTTCTG GGTCAGTGCC GATTCGGAGG CAAGGCTACA GGCGTTCCAT CCAGCGGGAG GACACCGGCT **CTGACAAAAA** GGTTCATGAG ATGGAAAGAG CAATTATGCT **AAGATTACAA** AGCATGCAGG **IGATAAAGTT** CCGGTTTGGT CGCACGGTGA TCAATCAGAA GATCGATGGC GACGGCCGAG CGACGACCCC TCGCCAAGG GACGTCCATG **ATCGTGTCGG** SAGCTGTGGC CGACAACCAC TCACCCACCC **TTACACACAG** AGTATTTGTC GGACAAAGG TTGAGAGAG GTGTGTCTGC TACAACTTCC GTCGGAGAG CGCTGATCGA ACAAGCGCGT GTTTATCGAC GTCTGTTTAG AGGTCGTTCC **AAGATGTCAG** ATGTCCCTAT AGTAATGATC GCCTCTCCTC AATCGATGAT ATAAAATAAT ccaaatcctc aaaaagaggt CGAAGGCTIC CAGGICGICG ATTGTGCGTA CCGAGATATG AACTGGGTCG GCGCCTGGTG ACCTCGCGGA **TTCATGGAAG** GACCACCTCA GCATACATCC AGTCTGGTGA TCCAAAGTTG TTCAGTTCA TAGAAATGTG TAAAATTAGG CATCTCCGAA GTCCTCCTTG TGGCGGGTGG CGTCTCACTC GGAGCACAAG TGATCTGCCG GCGCCTCGAC CGTGGAGGC CGACCTTCGT ATATCAATGA TAGTGGATAC GAAAAATAGT AGAATAATTT CAGCTCAAGT TGTGTCTGGT GGAGCTGGTC TETTGCTGTT TCGTTGAACA GCCAAGGCGA AGAAATAATA CGTTGATGAG TCCGCAAAGG AGTTTTAAAA ATCAATCATC GGTCCTCATC GGAAGGAGAA CTCCCTCCGC CAACGAGGCG ACCGCACGGC GGCCGCACA GCCGGACATC **FCGACGCGTG** TCGCCGTGG TCAACGTCGC GCAGGGCTAC AGGAGATCGA AGCGATCTCT TGTTTATAAA GGAAAGTGA AGCTTATTGA GGTGTGAGCG AAAGAAAGA TAGTTAATAT TGTTATGTGT GGAAGCTGAC aagtttcgaa ACCTCATCCC GGTCTCAAGG GTCATCAACC CGCACCGGCA AAGGGCATCC GTGGTGGCCG ACAAGGTCAT **FACGCTCGAG** CCACGTCTGG CTAAGTACGG CCTCGACTGG rceccec CGAGCCGAGC CAGGTTCGTT CTGTAAAGAG AAAGGAGTTA CAGCAGCTGC AAGAGTGATG **TGGAGGAATG** TGTCCCTTTC TGGGAGTCGT GACATCGGCT AGTTGTTAAA TTGCAGAGGA TGGCAAGTTT TATTGTTTAT CAGAAGAAGT taggctcgca GACGTCGAAC CTTCACCACC TCCCCTCCG GCGCATCAT GCATGATCGG CTTCGATTGG GGGATTCAAC GCTCAAGATG GACCAGAACG CTCTTTGTGA TGCCTGACAA GAAAACGTC TGTCGGTGTG ATGGAACTTA AACCGGAAAA **ICGTTTTAAA** CCGGCATCAC CTGGACGCGT CGCCGACATC CCGACTCCCG GGCCCGACT TCGACGCCAC ACCGCCCCTC AGATGGCTCT ATGTTTACCC TCTTACTACA TTAAGGATTT AAACACTTCT GAACCTTCTT ACCAAGATAC AAATCTGACC CCTGTGGCCG GCGAGCGAGC GCTGTACGAT GGCGGGACGC CCCGGACACC GGCTCGACTG AAGATCTACA GCCGAACTAC CGGCGTTCGA AAGGCGCCCG ACGACCATTT CTTGGAGGAG TTCAGAAGGT CGGAGGCCC TTCGATCTCG TATAGAAATG CATGGTGAAC ATCGCCGCAG TCCAGGTGAT GGTTCATAAG GTTTGTTTAT GAGTGGAACT CACTCTCGGA CGAATCGGAT TCCTGTTTCA CTTACCGTCG TGTCAGAGGT AGGACGCGAT CTGGAGTTTG CAAAGATTGG ATCTGGGAGA CGAGGACGGC GATCCACCCG CGACATGGCA CGACGCAGCA GGTGGACGAC TGCCTGGGCG GGCAAGGGCG CCTCTTCGAG GCACCGGCAA GGGACGGCAA AGCAACGGCA TGCATCTTCT GCCGGGCAAG CTCATTGGCT CTGTATGGGA CTTTTAGAA TGGAGCCGAT ATAACCACCC ACGTGAGAGA GAACAAGAAC CTACTGTCGC TGCTGAACAC **AATGAGTCAT** CGTCACGGGC CCGACGAGGC CTTGCAAAGT TCCGCTTTCT 7041 6881 6961 6561 6801 5761 5841 6001 6081 6161 6241 6401 5481 5641 6721 5041 5281 5361 5441 5601 5681 6321 4961 5201 5521 5921 4881 5121

FIG. 5-D

2007,280	360	440	,520	,600	,680	1760	7840	7920	7926	
aag 7 TGT 7	CAG 7	CGA 7	ATA 7	ACG 7	TGA 7	taa 7	gag 7	999		80
7121 aggtaagggg cgttcaggcg gaaggcctaa accaaaaagt tttgatgaag ttgaaaaaga gtttgataat ttgattga	TCAAACA	7361 CAAGCAAGAA CTACTGTTCA ACAGCAGTTC AGCGAGGTGT GGAAACCTTT CCCTCAGAGC ACCGTCAGAT TTCCTGGCGA 7440	GGT ACAATGCAGT TTTAGATCCT CTAATTACTG CGTTGCTGGG GGCTTTTGAT ACTAGGAATA 7520	7521 GAATAATCGA AGTAGAAAAC CAGCAGAGTC CGACAACAGC TGAAACGTTA GATGCTACCC GCAGGGTAGA CGACGCTACG 7600	7601 GTTGCAATTC GGTCTGCTAT AAATAATTTA GTTAATGAAC TAGTAAGAGG TACTGGACTG TACAATCAGA ATACTTTTGA 7680	7681 AAGTATGTCT GGGTTGGTCT GGACCTCTGC ACCTGCATCT TAAATGCATA 99tgctgaaa tataaagttt gtgtttctaa 7760	7761 aacacacgtg gtacgtacga taacgtacag tgtttttccc tggacttaaa tcgaagggta gtgtcttgga gcgcgcggag 7840	7841 taaacatata tggttcatat atgtccgtag gcacgtaaaa aaagcgaggg attcgaattc ccccggaacc cccggttggg 7920	! !	_
taat ATCG	AGTT	AGAT	TGAT	TAGA	CAGA	gttt	tgga	Jaacc		70
gtttga TTCTCC	GTAACC	ACCGTC	GGCTTT	GCAGGG	TACAAT	tataaa	gtgtct	ნნაააა	٠	
aaga TCAC	TTAG	GAGC	T 666	ACCC	ACTG	gaaa	ggta	attc		9
ttgaaa ACTCAA	AATTCG	CCCTCA	CGTTGC	GATGCT	TACTGG	ggtgct	tcgaag	attcga		
gaag FCTT	TACA	CTTT	ACTG	GTTA	GAGG	CATA	taaa	aggg		20
tttgatg aatATG	CGTTTG.	GGAAAC	CTAATT,	TGAAAC	TAGTAA	TAAATG	tggact	aaagcg		
aagt atta	TAAA	STGT	TCCT	CAGC	GAAC	ATCT	taca	aaaa		40
accaaa. attogt	AATTGT	AGCGAG	TTTAGA	CGACAA	GTTAAT	ACCTGC	tgtttt	gcacgt		
ctaa tctg	4TAG	GTTC	CAGT	AGTC	TTTA	CTGC	acag	gtag		30
gaaggc. gcggat	GACCCT,	ACAGCA	ACAATG	CAGCAG	AAATAA	GGACCT	taacgt	atgtcc	•	 ,
gcg ggtc	3GCT	TTCA	46GT	AAAC	CTAT	GTCT	acga	atat		20
cgttcaç gacgteç	TGTATG(CTACTG.	GTGTAC/	AGTAGA/	GGTCTG	GGGTTG	gtacgt	tggttc		
1999 :cga	ATC:	IGAA	AAG	CGA	\TTC	STCT	gtg	tata		10
aggtaag atgaagc	TTTTGTC	CAAGCA/	7441 TGTTTATAAG GTGTACA	GAATAA	GTTGCA/	AAGTAT(aacaca	taaaca	7921 gcccaG	
7121 7201	7281	7361	7441	7521	7601	7681	7761	7841	7921	